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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/074,676	02/12/2002	Tod Paulus	SILA:098	8077

7590 12/01/2004
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EXAMINER

LEE, JOHN J

ART UNIT PAPER NUMBER

2684

DATE MAILED: 12/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/074,676	Applicant(s) PAULUS ET AL.	
	Examiner JOHN J LEE	Art Unit 2684	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 18 and 29 is/are rejected.
- 7) ☒ Claim(s) 3-17, 19-28 and 30-44 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 June 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/2/03, 12/2/02.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed on 12/2/2002 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

Drawings

2. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because the informal drawings are not of sufficient quality to permit examination. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. **Claims 1, 18, and 29** are rejected under 35 U.S.C. 102(e) as being anticipated by Hessel et al. (US Patent number 6,389,078).

Regarding **claim 1**, Hessel discloses that a radio-frequency (RF) receiver circuitry (125 in Fig. 5) (Fig. 5 and column 9, lines 34 – 65). Hessel teaches that down-converter circuitry (128 in Fig. 5) configured to accept a received radio-frequency signal (Fig. 5 and column 9, lines 34 – 65, where teaches a down converter circuitry for converting the received radio frequency signal). Hessel teaches that the down-converter circuitry (128 in Fig. 5) further configured to process the received radio-frequency signal to provide an in-phase down-converted signal and a quadrature down-converted signal (Fig. 5, 14 and column 9, lines 34 – column 10, lines 67, where teaches the down converter circuitry processes the received radio signal to configure providing signal waveform such as I and Q phase and phase and magnitude and complex modulation (quadrature IF down conversion) signal). Hessel teaches that analog-to-digital converter (ADC) (129 in Fig. 5) circuitry configured to receive the in-phase and quadrature down-converted signals and to provide an in-phase digital output signal and a quadrature digital output signal (Fig. 5, 8, column 5, lines 34 – 65, and column 10, lines 46 – column 11, lines 40, where teaches the

analog-to-digital converter received IF signals (signal waveform such as I and Q phase and phase and magnitude and complex modulation (quadrature IF down conversion) signal) and providing the signals to digital IF subsystem). Hessel teaches that DC offset reduction circuitry (164 (including a frequency offset and phase shift control circuit and a numerical controlled oscillator) in Fig. 8) coupled to the analog-to-digital converter circuitry (Fig. 5, 8 and column 11, lines 21- 40). Hessel teaches that the DC offset reduction circuitry (164 (including a frequency offset and phase shift control circuit and a numerical controlled oscillator) in Fig. 8) tends to reduce a DC offset transmitted to the in-phase and quadrature digital output signals (column 43, lines 2 – 26, Fig. 56A, 58A, 28, and column 21, lines 15 – column 22, lines 31, where teaches for transmitting amplitude modulated analog signals (waveforms (I and Q (quadrature digital signal) and Phase)) are converted to digital signals by a/d converter and applied the high pass filters the signals to remove any DC offset).

Regarding **claim 18**, Hessel discloses all the limitation, as discussed in claim 1. Furthermore, Hessel further discloses that receiver digital circuitry included within a second integrated circuit (150 in Fig. 8), the receiver digital circuitry to receive and process the digital output signal to generate a processed digital signal (Fig. 8 and column 11, lines 1 – 40, where teaches the configured receiver demodulator and signal processing circuit includes a multi bit digital signal path consisting of an analog to digital converter interface quadrature signal processing circuits).

Regarding **claim 29**, Hessel discloses all the limitation, as discussed in claim 1. Furthermore, Hessel further discloses that feeding back to an input of the analog-to-

digital converter circuitry a feedback signal that relates to the digital output signal (Fig. 8, 24, column 11, lines 21 – 41, and column 17, lines 24 – column 18, lines 11, where teaches the analog-to-digital converter sends the multi bit digital signal to input to the analog digital converter interface for feeding and relating the digital output signal). Hessel teaches that the feeding back the feedback signal to an input of the analog-to-digital converter tends to reduce a DC offset of the receiver analog circuitry (column 43, lines 2 – 26, Fig. 56A, 58A, 28, and column 21, lines 15 – column 22, lines 31, where teaches for transmitting amplitude modulated analog signals (waveforms (I and Q (quadrature digital signal) and Phase)) are converted to digital signals by a/d converter and applied the high pass filters the signals to remove any DC offset).

Allowable Subject Matter

5. Claims 3-17, 19-28, and 30-44 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record fails to disclose “the input of analog to digital converter circuitry comprises combiner circuitry configured to provide a difference signal to the analog to digital circuitry, where the combiner circuitry subtracts an output signal of the DC offset reduction circuitry from the down converted signal to produce the difference signal” as specified in the claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Phillips et al. (US Patent number 5,712,628) discloses Digitally Programmable Radio Modules for Transponder System.

Luz et al. (US Patent number 6,321,073) discloses Radio Telephone Receiver and Method with Improved Dynamic Range and DC Offset Correction.

Huang (US Patent number 6,324,231) discloses DC Offset Cancellation Apparatus and Method for Digital Demodulation.

Information regarding...Patent Application Information Retrieval (PAIR) system... at 866-217-9197 (toll-free)."

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 308-9051, (for formal communications intended for entry)

Or:

(703) 308-6606 (for informal or draft communications, please label
"PROPOSED" or "DRAFT").

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **John J. Lee** whose telephone number is **(703) 306-5936**.

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He can normally be reached Monday-Thursday and alternate Fridays from 8:30am-5:00 pm. If attempts to reach the examiner are unsuccessful, the examiner's supervisor, **Nay Aung Maung**, can be reached on **(703) 308-7745**. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-4700.

J.L
November 18, 2004


NAY MAUNG
SUPERVISORY PATENT EXAMINER

John J Lee